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[Notified in Army Orders for July, 1930.]

HANDBOOK FOR THE ·303-INCH VICKERS MACHINE GUN

1930

SUPPLEMENT

·5-inch Vickers Machine Gun,
and
·303-inch Vickers Machine Guns,
Mark IV and IV*.

} For Armoured
Fighting
Vehicles.

1930

LONDON:

PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:

Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh;

York Street, Manchester; 1, St. Andrew's Crescent, Cardiff;

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By Command of the Army Council,

H. J. Creedy

THE WAR OFFICE,
22nd July, 1930.

GUN, MACHINE, VICKERS, .50-INCH, MARK II (WATER-COOLED) FOR ARMoured FIGHTING VEHICLES.

The gun is of larger size due principally to the increased size of the cartridge. Apart from this and the special features described hereafter, the gun is similar in mechanism and method of functioning to the Vickers .303-in. Machine Gun. The hand-book for the latter can be used at all times except where modified in this pamphlet.

The method of instruction and description adopted in the above hand-book, is also followed here, except that the nomenclature of the parts is given as Appendix A.

Name :—50-inch Vickers Machine Gun Mark II.

General Particulars

Weight of gun with shoulder-piece but without water	..	About 70 lb.
Weight of gun with shoulder-piece with water	.. ..	.. 79 ..
Weight of shoulder-piece	.. ..	.. 11 ..
.. barrel	.. ..	.. 7½ ..
Length of gun overall (including shoulder-piece)	.. ..	48.12 inches.
Length of barrel	.. ..	31.10 ..

Weight of ammunition belt,			
empty	2 lb. 6½ ozs.		
Weight of ammunition belt,			
filled (100 rounds)	20 lb. 1½ ozs.		
Weight of belt box			
Diameter of bore .. ..	.50-inch.		
Rifling—			
Type	Concentric, with rounded corners.		
No. of grooves	7		
Direction of twist	Left hand.		
Pitch	1 turn in 15 ins. or 30 cal.		
Width of lands .. ..	.08-inch.		
Depth of grooves .. ..	.0075-inch.		
Rate of fire	About 450 rds. a minute retarded and 650 unretarded.		

Description of Non-Recoiling Portions

Barrel Casing.—The barrel casing is the same size as and similar to that of the .303-in. Vickers Gun. No muzzle attachment is provided, sufficient recoil being obtained without its use.

The end-cap and trunnion block are of gun-metal. The former is fitted with a gun-metal packing gland which receives a rubber gas-check ring. This ring seats in the front of the armoured jacket to ensure a gas-tight joint. The packing gland is secured by means of a locking device assembled to the end-cap. This device

engages the serrations of the packing gland and a screw prevents movement.

The water and steam arrangements are similar to the .303 Mk. I gun, but no provision is made for the connection of a steam condenser tube, and chain attachments are not provided for the headless screwed plugs as such would prevent assembly in the mounting.

Mounting Plate.—A dove-tailed plate rigidly connected to the underside of the gun beneath the trunnion block of the barrel casing enables the gun to be securely mounted. The plate is fitted with a bracket to hold the ejector tube and is also bored to take the plunger lock of the mounting.

Ejector Tube.—Is fitted into the bracket of the mounting plate. Its function is to carry the fired cartridge cases and unfired rounds which have passed through the gun, outside the vehicle. A cartridge check under spring tension is fitted internally to prevent these cases falling into the breech when the gun is elevated. The Mk. I check is formed as a lever and has a ribbon spring. The Mk. II is a cylindrical plunger with a spiral spring. The former acts in a lateral direction, and the latter vertically.

Breech Casing—

Left Outside Plate.—Two hinges are riveted on the top for the side-opening rear cover.

Right Outside Plate.—At the front is riveted a vertical bracket for the layshaft. Midway two slots are provided for the rear cover catch. A housing is provided for the plunger extractor safety stop.

Extractor Stop and Spring.—These are fitted in a housing fixed to the right outside plate of the breech casing, the stop acting upon the right horn of the extractor. The stop ensures that, in the event of a stoppage occurring in the first position, the round in the feed block cannot be fired by the upper round in the extractor. In view of this introduction, stop steps are not formed on the cams in the breech casing for the horns of the extractor.

Bottom Plate.—Interruptions are formed in the grooves for the assembly of the trigger guard and mechanism.

Rear Crosspiece.—Is a block pivoted and retained in position as in .303 Mk. I Guns.

On the rear face a slide is provided for housing the shoulder-piece and a recess allows for catch engagement.

Front Cover.—A stud is riveted on the underside for assembly of the flat catch spring.

Front Cover Catch.—Is a slam catch fitted to the front end of the cover; it turns in the vertical plane and engages a notch in the rear face of the trunnion block. A curled thumb-piece projects above the front cover. The flat spring retains the catch in the closed position.

Rear Cover.—Is hinged to the left outside plate of the breech casing, and is secured by a catch on the right. A sight bracket is fitted to take a sight, when provided, and a housing is formed near the rear end on the left for a crank catch.

Rear Cover Catch.—This is a slam catch fitted to the right side of the rear cover. It turns in the vertical

plane, and engages two notches in the right outside plate, and has a curled thumb-piece of similar shape to that of the front cover catch.

Crank Catch.—This is housed in the rear cover for the purpose of retarding the rate of fire. It is arranged to detain temporarily the crank during the first portion of the forward swing of the latter, disengagement taking place as the continued forward movement of the barrel and side plates causes the upper end of the crank to move downward and so clear the catch.

Provision of a screw and lock nut on the outside of the housing is made to enable the catch to be put in or out of operation as desired.

The catch is not very reliable as slight variations in recoil affect the depth of engagement with the crank.

For this reason the gun will normally be fired with the catch disengaged.

Rear Slide.—Is in one piece, the central portion forming a frictional stop for the crank. The roller on the right side is of small diameter, and is acted upon by the crank handle during the first opening movement of the breech only.

Fusee Spring.—Is of compression type and is enclosed in a steel tube. Adjustment for weight is obtained in the usual manner. It can also be obtained by turning the steel tube.

Fusee Spring Bracket.—This forms the anchor for the adjusting screw at the front end of the spring; it hooks on to the left side of the breech casing in the ordinary manner.

Trigger Mechanism.—A triangular trigger guard frame

is assembled to the underside of the breech casing, and is secured by a spring catch.

The trigger guard and pistol grip house a two-finger trigger and a safety catch. The trigger is integral with a sliding bar, the front end of which engages the trigger lever. The latter actuates the layshaft lever which rotates the layshaft mounted vertically in the bracket on the right of the breech casing. A boss on the top of the layshaft bracket houses a trip plunger and spring for single shot fire. Below the boss, pivoted on the layshaft, is the top lever, operated by a trip plunger, which, making contact with the gun lock trigger bar in the rear cover, enables the lock trigger to be actuated and so fire the gun.

When the change lever, located at the top of the layshaft housing, is set for single shot fire the action is as follows:—the stud on the underside of the change lever is placed in the path of the projection on the trip plunger. When the trigger is pressed, the layshaft is rotated and the trip plunger being in engagement with the top lever the trigger bar is moved to the rear. Whilst moving sufficiently far to the rear to fire the lock, the trip plunger becomes disengaged from the top lever and under the action of the trigger bar spring the top lever is returned to its original position. On releasing the pressure on the trigger, the layshaft returns to its normal position and the trip plunger under the influence of its spring again engages behind the top lever.

When the change lever is set for automatic fire, a clearance in the stem of the lever allows the projection on the trip plunger to pass freely, so enabling continuous contact of the top lever of the layshaft and the trigger

bar in the rear cover to be maintained so long as pressure is kept on the trigger.

Safety Catch.—Is fitted on the right of the trigger guard frame for operation by the thumb of the trigger hand. It is normally held, under spring pressure, in engagement with the bar of the trigger and must be pressed downward before the trigger can be pulled back.

Description of Recoiling Portions

Side-Plates.—The left sideplate is not extended forward in view of the method used for the operation of the bottom lever of the feed block by the recesses in the barrel.

Connecting Rod.—The connecting rod is extended beyond the bayonet joint in order to form a more rigid connection with the lock.

Lock—

Extractor.—The lower end is reduced in width to enter a groove in the trigger guard frame. A spring loaded projecting detent and plunger is fitted near the lower end to retain the empty case, or unfired cartridge, in position for entry into the ejector tube. The plunger forms an abutment for the spring and is secured in position by a detachable cover plate.

Feed Block.—A bullet guide-spring is fitted at the front, and a cartridge retaining spring at the rear of the cartridge way, to position the rimless cartridge. The top or feed pawl is of single type. The retaining

pawls with connecting bar are pivoted on the top of the block as in the L.H. .303-in. block.

Barrel.—Recesses are cut in the upper surface of the trunnion block from right and left for the engagement and operation of the bottom lever of right and left hand feed blocks respectively.

Appurtenance of the Gun

Shoulder-piece.—A heavily weighted and padded shoulder-piece is assembled to the rear-crosspiece in place of the usual handles, and is secured by a spring catch. The shoulder-piece is made heavy in order to form a counter weight to balance the armoured jacket of the mounting.

Description of Accessories

Machine Positioning Cartridges in Belt.—The machine consists of a metal frame suitably formed to receive the belt and cartridges, and a lever by means of which the cartridges are forced into position in the belt.

Belt, Ammunition.—The belt is of similar pattern to the fabric belt with the brass strips for the .303" gun, except that it is not provided with the long or projecting strips and holds only 100 rounds.

Box, Belt.—The box holds one filled belt, it is made of tinned plate and has a hinged lid in two parts hinged together so that only one part need be open when the gun is firing. When closed, both parts are secured by a quick release strap. One end is fitted with a carrying handle.

Case, Spare Barrel.—This is made of leather and holds one barrel. It is tubular in form and is fitted with a cap secured by a leather strap.

Holdall.—Is made of leather and has six pockets with flaps each secured by a stud.

When carried, it is folded and secured by a strap and stud. Two carrying handles are fitted.

Box, Spare Parts and Tools.—The box is made of teak wood and is suitable partitioned. It is fitted with a leather carrying handle and has a hinged lid secured by two catches.

Rod, Cleaning.—This has two eyes for flannelette, it is fitted with a folding handle, and has a bush assembled which forms a muzzle guide.

Instructions for Stripping and Assembling the Special Features †

Rear Slide.—Care should be taken to see that this component is correctly assembled, i.e. roller on the right side of the gun.

Gland.—Release the screw and withdraw the locking piece before unscrewing the gland.

To Remove the Trigger Guard Frame, and Trigger Guard.—Depress the catch on the right side of the frame, pull the frame to the rear, and remove with the trigger guard, in a downward direction.

To Remove the Trigger Guard from the Frame.—With the point of a bullet, or suitable punch, depress the plunger at the rear, and pull the trigger guard slightly

† In order to ensure correct functioning, the parts will be kept to their own guns.

to the rear. Raise the spring catch above the trigger lever, and remove the trigger guard rearwardly.

To Remove the Fusee Spring, with Fittings, from the Gun.—Pull the crank handle on to the stop of the rear slide; insert the small end of the head of the "T" fixing pin, or the small end of a No. 5 punch, into the hole near the front of the tube; allow the crank handle to go forward; detach the fusee chain from the claw, and push the bracket forward off the stud on the breech casing.

To Remove the Spring Fusee from the Tube.—Unscrew the adjusting screw, and remove the bracket; withdraw the "T" pin from the tube, remove the split pin, unscrew the plug, and remove the spring and rod.

To Replace the Spring in the Tube.—Stand an empty cartridge case vertically with its base on a flat surface; place the spring on the rod, and insert both into the tube; hold the tube vertically, and rest the front end of the rod on the top of the cartridge case; compress the spring by forcing the tube downward, insert the head of the "T" pin in the hole in the tube, and replace the plug and split pin.

Note.—Do not remove the head of the "T" pin when the plug is removed from the tube.

** To Remove the Mk. I Cartridge Check from the Ejector Tube.*—Turn the gun upside down; with a screwdriver compress the spring clear of the check, then, with a second screwdriver, withdraw the front end of the spring from its retaining hole in the trunnion block,

* To be removed by armourer only.

and lift the spring upwards; insert a "U" piece of wire in the holes provided, and remove the check.

** To Remove the Cap from the Layshaft Housing.*—Open the rear cover; raise the change lever slightly with a screwdriver, to clear the stud marked "A"; turn the lever fully forward, and lift it out; remove the cap fixing screw, turn the cap clockwise until its indicating line coincides with the inner line on the housing, and lift off.

** To Remove the Layshaft from its Housing.*—Open the rear cover; insert a No. 3 punch in the hole of the housing, and drive out the lower lever retaining pin; then drive the layshaft upward, so releasing the lower lever and spring.

** To Remove the Trip Plunger and Spring.*—Remove the layshaft upper lever; drive out the spring retaining pin from the underside, and remove the plunger and spring.

Extractor. To Remove the Detent.—Depress the plunger at the rear, drive out the detent cover plate, remove the plug, spring and detent.

** To Remove the Extractor Stop.*—Remove the two split pins from the cap. Press the cap inward, give it a quarter turn and remove the cap. Remove the stop and spring. When assembling, replace the stop with its chamfered edge towards the front of the gun.

Note.—Where the foregoing instructions contain those for stripping only, the reverse order will be followed for assembly.

* To be removed by armourer only.

GUN, MACHINE, VICKERS, .303-INCH, MARK IV (WATER-COOLED) FOR USE IN ARMoured FIGHTING VEHICLES.

Note.—In order to ensure correct functioning, the parts will be kept to their own guns. Those indicated by a star will be stripped only by the armourer.

This gun, converted from the Mk. I Vickers, in its method of functioning is identical with the latter gun. The principal changes have been made to ensure rigid connection to the gun mounting and to suit the conditions of operation peculiar to A.F.Vs.

To achieve the former object a special mounting plate is fixed to the gun which slides into, and is locked in, the mounting. The other main features are :—

(1) Provision of a shoulder-piece cheek pad and a pistol grip with trigger mechanism to suit the method of handling adopted in A.F.Vs.

(2) An ejector tube to carry the empty cases outside the vehicle.

(3) A rubber gas check ring on the end-cap to prevent the products of combustion from being blown back into the interior of the vehicle.

(4) A side-opening rear cover.

The description of the parts special to this gun is arranged in the same sequence as for the Mk. I gun. The nomenclature of the spare parts is given in Appendix B.

The main description given in the Service Hand-Book

of the Mk. I gun should be followed except when such is modified by the following particulars :—

Name.—303-in. Vickers Machine Gun Mk. IV.

Weights—

Weight of gun without shoulder-piece and without water	.. .. .	38 lbs.
Weight of gun without shoulder-piece with water in casing	.. .. .	48 lbs.
Weight of small shoulder-piece	.. .. .	11½ lbs.
Weight of large shoulder-piece	.. .. .	17 lbs.

Length—

Length overall with small shoulder-piece	44½ ins.
Length overall with large shoulder-piece	48 ins.

Barrel Casing.—Is modified in the following particulars—A special end-cap is fitted. This has a circular recess in the front face to hold the *rubber gas check ring* which seats in the front of the armoured jacket of the mounting. The cap is tapped for assembly of the *muzzle attachment lock pivot screw*, and fitted with studs for positioning the *muzzle attachment lock*.

The *muzzle attachment* is of the Service pattern with the exception of the *outer casing* in which twelve radial grooves are cut at the rear end. These grooves receive the *muzzle attachment lock* which prevents loss of the outer casing. This lock takes the place of the split pin with chain, ring and "S" hook, and the screwed stud of the Mk. II attachment.

The muzzle attachment lock is pivoted on the front of the end-cap. When turned to the locked position, the inner end engages in one of the grooves in the outer

casing and so locks it, being retained in position under spring pressure by grooves which engage the studs fitted in the end-cap.

The *steam tube** is assembled from the rear end, has a special head and is not retained by a keeper screw. The seating for the *acorn* has two fixing holes only. The *condenser tube boss* and *drain hole* are located in the trunnion block at the rear end of the barrel casing. The boss is designed to permit quick assembly of the condenser tube. The plugs which close the filling and drain holes are without chain attachments, to facilitate assembly in the armoured jacket. They are common to the .50-in. Mk. II Vickers gun.

The trunnion block lugs as provided on the ground pattern gun have been removed. A notch is cut in the rear face of the block for the engagement of the front cover catch.

A bracket is riveted to the underside to support the *ejector tube*.

Mounting Plate.—Is a dovetail plate rigidly fixed to the underside of the gun beneath the trunnion block of the barrel casing. On its underside, the plate is slotted to give access to the cartridge check and spring in the ejector tube. It is also bored to take the *plunger lock* of the mounting.

Ejector Tube.—This tube carries the empty cases or unfired rounds, which have passed through the gun, outside the vehicle. The rear end is riveted to the trunnion block. The tube passes above the mounting plate to the underside of the barrel casing where the front end is supported by the bracket on the barrel casing. A *cartridge check*,* under spring tension, is

provided to prevent the cases or cartridges falling back into the breech when the gun is elevated.

Breech Casing.—Two joints for hinging the rear cover are riveted on the left outside plate, and a vertical bracket for the *layshaft* is riveted on the right outside plate. A slot is also cut in this plate for the engagement of the rear cover catch. The left elevating joint lug is cut away to form a loop for attaching the cheek pad.

The bottom plate is drilled to take an elevating bracket, and the shutter groove is modified for trigger guard assembly.

The right elevating lug, mounting stop, shutter stop and shutter have been removed.

Elevating Bracket.—This can be provided for elevating gear when required. When fitted the bracket is secured by a screw and nut.

Rear Crosspiece.—This is without handles, flanges being formed on the rear face for shoulder-piece assembly. Firing lever, safety catch and trigger bar lever are not fitted.

Front Cover.—A bracket is riveted on the top at the front for assembly of the catch, and a stud is riveted in the centre of the underside for assembly of the *flat catch spring*. The *front cover catch*, of vertical slam type, engages in the rear face of the trunnion block. A curled thumb-piece projects above the cover. The flat spring retains the catch in the closed position.

Rear Cover.—Is hinged to the left outside plate and is kept closed by a catch which engages a slot in the right outside plate. On the underside, brackets are attached for the *catch*, *trigger lever* and spring. The ramps are reduced to permit of side opening, and a bush

is assembled in place of the rear cover lock. A clearance is cut on the underside for the trigger lever. The ordinary trigger bar is removed. The tangent sight is not fitted and the sight rib is cut away to form two loops for attachment of the cheek pad. No sights are provided on the gun, a telescope fixed to the mounting being used.

Rear Cover Catch.—This is of vertical slam type, consisting of a catch which engages a slot in the right outside plate, and an actuating lever with a curled thumb-piece formed at its outer end. These are pivoted in the bracket attached to the right side of the cover, and a flat spring is provided to retain the catch in the closed position.

Trigger Guard, Pistol Grip and Firing Mechanism.—The trigger guard and pistol grip house the trigger and safety catch. Interrupted flanges are formed at the top of the guard to engage the shutter grooves in the bottom plate. The guard is retained in position by means of a spring catch.* The finger trigger is formed integral with the sliding bar which is provided with a catch at the front end to engage the layshaft lever.* The latter imparts a rotary movement to the layshaft* housed in the bracket attached to the right side plate of the breech casing. The top of the layshaft is slotted to receive a projection on the trigger lever which is pivoted in a bracket attached to the rear cover. The trigger lever is thus actuated by rotation of the layshaft, and the front end of the lever, making contact with the gun lock trigger, fires the gun.

Safety Catch.—This is provided in the trigger guard frame for operation by the thumb, and may be fitted

on the right or left as required. It consists of a spring operated plunger which is normally engaged in a step on the sliding bar of the finger trigger. By downward pressure the catch is withdrawn from its engagement and the gun can then be fired.

Lock Modifications.—Extractor.—The lower end is reduced in width to enter a groove in the trigger guard. A spring loaded projecting detent and plunger are fitted in the lower face to retain the fired case, or unfired round on the face of the extractor to ensure entry into the ejector tube. The plunger forms an abutment for the spring and is retained by a detachable cover plate.

Feed Block Modification.—The feed pawl spring is made of steel and is stronger than the nickel alloy spring fitted to ground guns.

Appurtenances of the Mark IV Gun

Shoulder-pieces.—A padded shoulder-piece, heavily weighted to counter-balance the weight of the armoured jacket and gun, is assembled to the rear-crosspiece and is secured by a spring catch. The rear cover must be opened in order to assemble or remove the shoulder-piece.

Two types are at present provided, a small one for use with right-hand guns and a large one for left-hand guns. The large type is fitted with a hinged guard for the crank handle to prevent injury to the firer. The small type is common to the .50-in. Mk. II Vickers gun.

Cheek Pad.—Is provided for use as required. It is attached to the left side of the gun by means of two hooks and a loop which engage in the eyes on

the rear cover and left outside plate. A quick release strap allows for ready removal.

Condenser Tube.—This is a short piece of rubber hose fitted with a joint for assembly to the condenser tube boss of the gun. The joint allows for rotary movement round the boss when the gun is elevated or depressed, and has a quick release catch which engages in a groove cut on the underside of the boss.

GUN, MACHINE, VICKERS, .303-INCH, MARK IV* (WATER-COOLED) FOR USE IN ARMoured FIGHTING VEHICLES.

Note.—In order to ensure correct functioning, the parts will be kept to their own guns. Those indicated by a star will be stripped only by the armourer.

Description

This gun, converted from the Mk. I, Vickers, is very similar to the Mk. IV, but has been modified in certain particulars, as the result of experience with the Mk. IV.

The description of the Mk. IV gun applies to this pattern except as modified in the following particulars.

Barrel Casing.—The hole for the barrel bearing and gland in the *end cap* is $1/8"$ larger in diameter and the *ledge* on the front face of the cap is drilled and tapped for a *gland locking screw*. The thread for the gland is of larger diameter.

The *steam tube acorn socket* is thinner in the front wall, and does not project at the front of the end cap. A *keeper screw* is provided for the steam tube.

The head of the steam tube is recessed to house the steam tube keeper screw.

Muzzle Attachment.—The *muzzle attachment gland* has a larger screw thread and four interruptions are cut in the *outer casing retaining collar*.

The *gland* is locked in position by the *gland locking screw*. This is housed in the ledge on the end cap, the point of the screw entering one of the slots provided in the gland for the combination tool.

A bayonet joint with four interruptions is provided inside the muzzle attachment outer casing for attachment to the retaining collar of the gland, and four grooves are cut externally for engagement of the *muzzle attachment lock*.

The muzzle attachment lock is shaped at the outer end to form a foresight for use when required. The lock engages the outer casing when the foresight is upright and also when turned down across the face of the end cap.

When turned midway between these two positions, a clearance on the lock permits removal or assembly of the outer casing. The locking face is at a greater distance from the axis than in the Mk. IV gun.

Care should be taken when placing the gun in the armoured jacket to see that the foresight is *down*.

Mounting Plate.—The *supporting bracket* for the ejector tube is riveted to the top side of the plate near the front.

Ejector Tube.—Is strengthened at the front by an increase in the thickness of the material.

The supporting bracket is fixed to the mounting plate and not as in the Mk. IV to the barrel casing. Better alignment is thus ensured and damage to the barrel casing avoided.

Two small holes are provided on the under face to facilitate stripping of the *ejector tube cartridge check*.*

Breech Casing.—The *elevating bracket* is riveted to the bottom plate.

Rear Crosspiece.—This is brought flush with the top of the rear cover.

Front Cover.*—The position of the *spring stud* is nearer to the rear and the *catch bracket* is of different form with higher axis holes. The distance from the hook to the axis hole of the front cover catch is increased and the spring seating is solid.

Rear Cover.*—Is shortened at the rear end to permit assembly and removal of the shoulder-piece without opening the cover.

Trigger Guard, Pistol Grip and Firing Mechanism.—The *trigger bow* is increased in size and the profile of the side-piece recesses is modified to enable a two-finger trigger pull to be used. The *trigger finger-piece* is also lengthened and shaped for this purpose. The *side-pieces*, right and left, have a modified profile and the *safety catch and spring* are lengthened accordingly.

Layshaft.*—The rear angle of the stop which makes contact with the side plate is decreased to facilitate trigger guard assembly. The *trigger lever* is retained by a nut and split pin and has an upward extension for use with the firing gear of the 3-pounder gun.

Crank.*—Is provided with a *connecting rod spring* as in the Mk. I*. This enables the *connecting rod* to be retained upright during an exchange of locks. A hole is drilled through the web, so that the barrel bore may be inspected by lowering the rear crosspiece and holding the crank vertical.

Connecting Rod.—Is of Mk. I* pattern (grooved for vertical retention by the connecting rod spring).

Left-hand Feed Block.*—Certain Mk. IV* guns may be fitted with left-hand feed blocks. In these blocks the *cam lever* has a longer *stud*, and the *cam stud slot*

in the *top lever* is cut at a different angle and has a deeper bearing surface. This makes the length of travel of the *slide* the same as with the right-hand feed block, and increases the area of the important bearing surfaces.

Sights.—Ground sights are fitted for use outside the vehicle. The foresight has already been described.

The backsight consists of a cut down Mk. III* tangent sight assembled to a bracket riveted to the front cover.

Appurtenances of the Mk. IV Gun*

Pad, Rear Crosspiece.—A leather-covered protective pad assembled to the rear crosspiece is provided for guns which do not require shoulder-pieces.

Shoulder-pieces.
Cheek Pads. } Can be fitted as for the Mk. IV Guns.

APPENDIX A

List of Spare Parts and Accessories for Guns, Machine, Vickers, .50-in., Mk. II.

Note.—This list is a guide to nomenclature and scale for maintenance, but it is not intended to show the actual spares, etc., carried in armoured fighting vehicles.

SPARE PARTS

						<i>No. for each gun.</i>
Guns, Machine, Vickers, .50-in., Mks. I and II—						
Barrels	..	..	..	..	..	2 (a)
Block, feed, R.H.	..	..	..	..	..	1
Bush, axis, side levers	..	..	..	..	..	1
Collar, roller	..	..	..	..	..	1
Fuzee with chain	..	..	..	..	..	1
Gibs	..	..	..	..	..	2
Packing, asbestos, 5½ yds. long					pieces	2 (b)
Pin, split, check nut, long	..	..	..	..	..	4 (b)
Pin, axis, trigger	..	..	..	..	..	1
Pin, axis, tumbler	..	..	..	..	..	1
Pin, firing	..	..	..	..	..	2
Pin, fixing, crank handle	..	..	..	..	..	1
Pin, split, collar, roller	..	..	..	..	..	2
Pin, split, bush, axis, side levers	..	..	..	..	..	1
Pin, "T," fixing rear crosspiece	..	..	..	..	..	1
Roller	..	..	..	..	..	1
Plunger, extractor, safety stop	..	..	..	..	..	1
Spring, retaining pawls, feed block	..	..	..	..	..	1

SPARE PARTS.—*Contd.*

	No. for each gun.
Guns, Machine, Vickers, .50-in., Mk. I and II— <i>contd.</i>	
Spring, plunger, extractor, safety stop	1
Spring, gib	2
Spring, lock	2
Spring, top pawls, feed block	2
Spring, fusee	1
Spring, retaining cartridge, feed block	1
Spring, sear	1 (b)
Sear, with spring	1
Trigger, lock	1
Tumbler	1
Washers, adjusting, thick (.005-in.) ..	3
Washers, adjusting, thin (.003-in.) ..	3
Guns, machine, Vickers, .50-in., Mk. II—	
Catch, trigger	1
Detent, extractor	2
Lock, No. 2	1
Pin, keep, split, trigger bar	1
Plate, detent, extractor	1
Plunger, detent, extractor	2
Plugs, screwed, No. 2	2
Ring, joint (rubber)	1
Screw, locking, cap, trip gear	1
Spring, rear cover catch, No. 2	1
Spring, trigger bar, No. 2	1
Spring, front cover catch, No. 2	1
Spring catch safety No. 2	1
Spring, check, ejector tube No. 1 (or No. 2)	1 (c)
Spring, detent extractor	3

SPARE PARTS.—*Contd.*

	No. for each gun.
Guns, Machine, Vickers, .50-in., Mk. II— <i>contd.</i>	
Spring, lever, trigger	1
Spring, lock, trigger guard	1
Spring, lock, trigger guard carrier	1
Spring, plunger, trip gear	1
Spring, trigger	1
Pin, split, ejector tube	2 (d)

ACCESSORIES

Belts, .50-in., 100 round, Mk. I	5
Boxes, belt, Vickers .50-in. M.G. No. 1, Mk. I	5
Boxes, small parts, Vickers .50-in. M.G. Mk. I	1
Box, small parts, M.G. No. 1, Mk. I	1
Box, spare parts and tools, Vickers .50-in. M.G. Mk. I	1
Case, spare barrel, Vickers .50-in. M.G., Mk. I	1
Holdall, Vickers .50-in. M.G., Mk. I	1
Machine, positioning cartridges, Vickers .50-in. M.G. No. 1, Mk. I	1
Plug, clearing, Vickers .50-in. M.G. Mk. I	1
Pull-through double, with gauze wire, Vickers .50-in. M.G. Mk. I	1 (e)
Gauze, wire, pieces	3
Protector, muzzle, Vickers .50-in. M.G. Mk. I	1
Reflector, mirror, Vickers, .50-in. M.G. Mk. I	1

ACCESSORIES.—*Contd.*

	No. for each gun.
Rod, cleaning, Vickers .50-in. M.G. No. I,	
Mk. I	1
Tool, combination, Vickers .50-in. M.G.,	
Mk. I "B"	1
Punches, No. 3, M.G., Mk. I	1 (b)
Punches, No. 5, M.G., Mk. I	1 (b)
Balances, Spring, M.G., Mk. I	1 (b)
Screwdrivers, small, M.G., Mk. I	1 (b)

(a) One to be kept in leather case with gun, and one to be held in store.

(b) Common to Guns, machine, Vickers, .303-in.

(c) No. 1 flat, for side check.

No. 2 spiral, for bottom check.—To be demanded as Spring bolt, bayonet No. 1.—Section B.1.

(d) For bottom check only.—To be demanded as Pin, keep, split $\frac{3}{8}$ -in. \times $1\frac{1}{2}$ -in.—Section G.1.

(e) Early supplies were made of pull-through cord and 2 pieces of gauze wire of the pattern used for .303-in. arms.

APPENDIX B

*List of Spare Parts for Guns, Machine, Vickers, .303-in.
Mks. IV and IV**

Note.—This list is a guide to nomenclature and scale for maintenance, but it is not intended to show the actual spares, etc., carried in armoured fighting vehicles.

SPARE PARTS

	No. for each gun.
Barrels, Mk. II	1 (a, h)
Blocks, feed	1 (a, b)
Bushes, axis, side levers	1 (a)
Collars, roller	1 (a)
Cups, muzzle-attachment, ball, Mk. II	1 (a, h)
Detents, extractor	2
Discs, muzzle-attachment, ball	3 (a)
Fuzees, with chain	1 (a, h)
Gibs, No. 2 (or No. 3)	1 (a)
Levers, extractor, left, No. 2	1 (a)
Levers, extractor, right, No. 2	1 (a)
Locks, No. 2	1 (c)
Muzzle-attachment, Mk. IV	1 (d, h)
Muzzle-attachment, ball, Mk. IV*	1 (e, h)
Packing, asbestos pieces	2 (a)
Pins :—	
Axis, catch, trigger	1
Catch, front, cover	1
Catch, rear, cover	1

SPARE PARTS.—*Contd.**No. for each gun.*

Pins :—

Firing	1 (a)
Fixing, crank handle	1 (a)
Lever, layshaft	1
Split, bush, axis, side levers	1 (a)
Split, check nut, long	3 (a)
Split, collar, roller, No. 2	1 (a)
Split, screw, lock, foresight ($\frac{3}{8}$ " \times 2")	1
T. fixing, rear-crosspiece	1 (a, h)
Trigger	1 (a)
Tumbler	1 (a)
Plates, detent, extractor	1
Plates, locking, outer casing, muzzle-attachment	1 (m, h)
Plug, screwed, No. 2	2
Plunger, detent, extractor	2
Rings, joint (rubber)	1 (h)
Screws, catch, safety	1
Screws, keeper, gland, muzzle-attachment	1 (h, h)
Sears, with spring	1 (a)
Sights, fore, No. 2	1 (f, h)

Springs :—

Bottom pawl, R.H. feed block	1 (a)
Catch, front cover, No. 2	1
Catch, rear cover, No. 2	1
Catch, safety, No. 2	1 (m)
Catch, safety, No. 3	1 (h)
Catch, trigger	1
Catch, trigger guard	1
Detent, extractor	3
Ejector tube	1

SPARE PARTS.—*Contd.**No. for each gun*

Springs :—

Friction, slide, tangent sight	1 (a)
Fusee, with fittings	1 (a)
Gib	1 (a)
Lever, trigger	1
Lock	2 (a)
Pawls, retaining, L.H. feed block	1 (a, g)
Sight, fore	1 (n)
Top pawls, feed block, No. 2	1 (j)
Triggers	1 (a)
Tumblers	1 (a)
Washers, adjusting, No. 1 (.003-in.)	3 (a)
Washers, adjusting, No. 2 (.005-in.)	3 (a)
Washers, slide, tangent sight	1 (a)

(a) Common to Mk. I guns.

(b) Right or left hand as required.

(c) The complete extractor only is special, the remaining details are common to the lock for Mk. I guns.

(d) For Mk. IV guns only. The outer casing only is special; the remaining details are common to Mk. I guns.

(e) Mk. IV* guns only. The gland and outer casing only are special; the remaining details are common to Mk. I guns.

(f) Also locks the outer casing of muzzle-attachment.

(g) Common to L.H. feed blocks in Air Service Guns.

(h) For every 4 guns.

(j) Common to R. & L.H. feed blocks in Air Service Guns.

(k) Mk. IV* guns only.

(m) Mk. IV guns only.

(n) Also for plate, locking, muzzle-attachment.

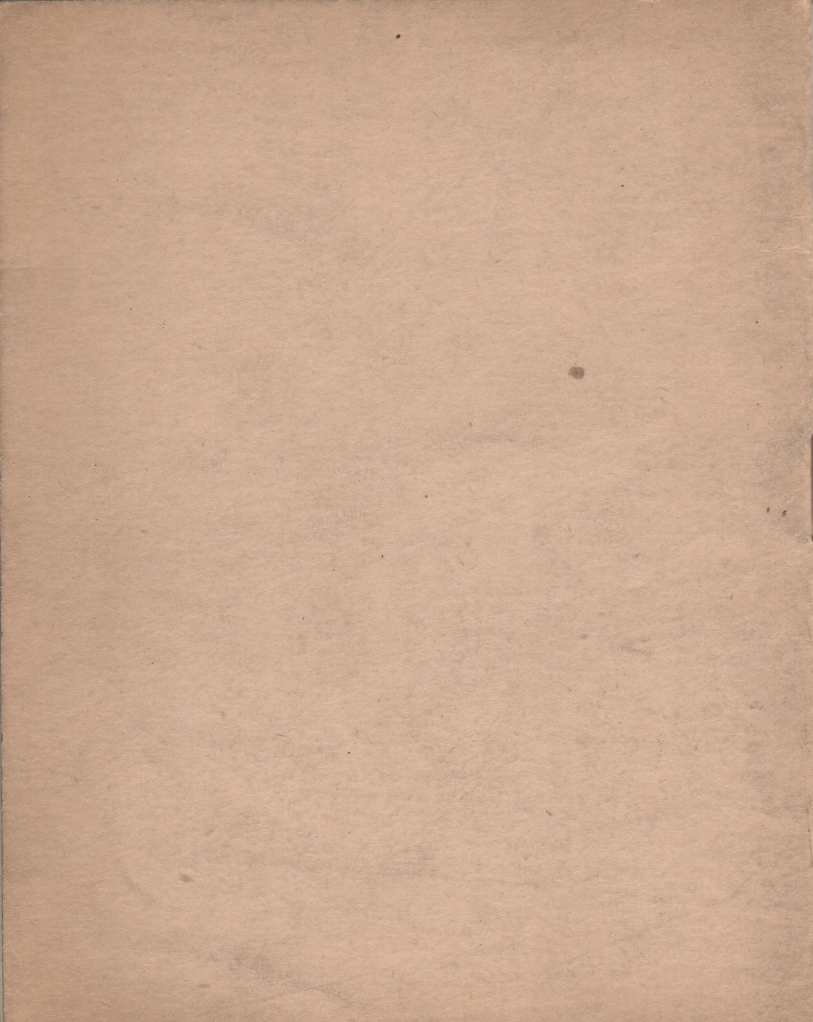
*List of Accessories and Tools for Guns, Machine, Vickers,
·303-in. Mks. IV and IV**

	No. for each gun.
Balances, spring, M.G., Mk. I	1 (a)
Belts, ·303-in. 250 round, Mk. I	8 (a)
Eyelets, long	$\frac{1}{2}$ oz. (a, h)
Strips, long	25 (a, h)
Strips, short	25 (a, h)
Boxes, belt, ·303-in. M.G., No. 10, Mk. I ..	8
Boxes, small parts, M.G., No. 1, Mk. I ..	2 (a)
Cans, oil, M.G., Mk. I	1 (a)
Chests, Vickers, ·303-in. M.G., Mk. II ..	1
Pliers, side-cutting, 6 inch or 7 inch ..	1 (a)
Plugs, belt, M.G., Mk. I	1 (a, h)
Plugs, clearing	1 (a)
Protectors, muzzle	1 (a)
Pull-throughs, double, Mk. I. " B " ..	1 (a)
Gauze pieces	3 (a)
Punches, No. 3, M.G., Mk. I	1 (a)
Punches, No. 5, M.G., Mk. I	1 (a)
Rods, cleaning, ·303-in. M.G., Mk. II ..	1 (a)
Screwdrivers, small, M.G., Mk. I	1 (a)
Tools, belt repairing, Mk. II	1 (a, h)
Tools, combination, Mk. II	1 (a)
Tubing, condenser, steam, Mk. II	1

(a) Common to Mk. I guns.

(h) For every 4 guns.

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